

WHAT IS CLAIMED IS:

1. A conductive electroless plated powder comprising:
core particles; and
5 a nickel film formed by an electroless plating process on
the surface of each core particle,
wherein crystal grain boundaries in the nickel film are
primarily oriented in a direction of the thickness of the
nickel film.
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2. A conductive electroless plated powder according to
claim 1, further comprising an electroless plated gold film
deposited on the nickel film.
- 15 3. A method for making a conductive electroless plating
powder comprising the steps of:
(I) allowing the core particles which have a noble metal
ion-capturing ability to capture noble metal ions, and
reducing the noble metal ions so that the surfaces of the core
20 particles support the noble metal;
(II) dispersing the core particles in an initial thin
film-forming solution containing nickel ions, a reducing agent,
and a complexing agent comprising an amine to prepare an
aqueous suspension, and reducing the nickel ions to form
25 initial thin nickel films on a surface of each of the core
particles; and
(III) adding a nickel ion-containing solution containing
the same complexing agent and a reducing agent-containing

solution individually and simultaneously to the aqueous suspension containing the core particles provided with the initial thin nickel films and the complexing agent to perform electroless plating.

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4. A method according to claim 3, further comprising at least one of the steps of:

adjusting the amounts of the nickel ion-containing solution added and the reducing agent-containing solution

10 added;

adjusting the initial concentration of the complexing agent in the aqueous suspension; and

adjusting the concentration of the complexing agent in the nickel ion-containing solution, so as to maintain the
15 concentration of the complexing agent in the aqueous suspension in the range of 0.003 to 10 moles/l in said step (III).

5. A method according to claim 3, further comprising the
20 step of using glycine or ethylenediamine as the complexing agent.

6. A method according to claim 4, further comprising the step of using glycine or ethylenediamine as the complexing
25 agent.

7. A method according to claim 3, further comprising the step of providing, before said step (III), a ratio of the sum

of the surface areas of the core particles contained in the aqueous suspension to the volume of the aqueous suspension between 0.1 to 15 m²/l.

5 8. A method according to claim 4, further comprising the step of providing, before said step (III), a ratio of the sum of the surface areas of the core particles contained in the aqueous suspension to the volume of the aqueous suspension between 0.1 to 15 m²/l.

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9. A method according to claim 5, further comprising the step of providing, before said step (III), a ratio of the sum of the surface areas of the core particles contained in the aqueous suspension to the volume of the aqueous suspension
15 between 0.1 to 15 m²/l.

10. A method according to claim 3, further comprising the step of imparting the noble metal ion-capturing ability to the core particles by a surface treatment.

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